

UNIT DESCRIPTION

The contracts are for two (2) indoor, balanced draft, parallel back-end, Carolina Type Radiant Boilers. Each unit will fire pulverized coal from 48 high input dual-register burners arranged in four rows of six burners on both the front and rear furnace walls. Furnace dimensions are 85ft. wide, 60ft. deep, and 229.5ft. from the lower wall header centerline to the drum centerline.

The highest maximum continuous rating of each unit is 6,600,000 lb/hr of main steam at 2640 psig and 1005° F at the superheater outlet with a reheat steam flow of 5,285,000 lb/hr at 551 psig and 1005° F with a feedwater temperature of 555° F. The highest turbine MCR conditions are 6,480,000 lb/hr main steam at 2640 psig and 1005° F with a reheat steam flow of 5,187,000 lb/hr at 550 psig and 1005° F with a feedwater temperature of 554° F. The customer's "maximum capacity" load (100% - guaranteed load) of each unit is 6,100,000 lb/hr of main steam at 2510 psig and 1005° F at the superheater outlet with a reheat steam flow of 4,925,000 lb/hr at 521 psig and 1005° F with a feedwater temperature of 545° F. Main and reheat steam temperatures are controlled to 1005° F from MCR down to 65% load (3,925,000 lb/hr) by a combination of excess air, spray attemperation, and gas biasing. The design pressures of the boiler, superheater, economizer, and reheater are 2975, 2975, 3050 and 750 psig respectively.

Each unit is capable of continuous operation on any of the seven customer specified coals "A" through "G" with coal F fired in a 50/50 blend with any other fuel. The 8 MPS-89G pulverizers were sized based on two other coals which are fully described later. Since some of the coals are classified as severe slagging and others are classified as severe fouling, the furnace and convection pass are designed on a severe slagging and fouling basis.

Each unit will be equipped with two cold primary air fans, two Ljungstrom secondary air heaters and two Ljungstrom primary air heaters.

The units are designed for cycling service and each is initially provided with a partial boiler by-pass system. The units can be operated in either a constant pressure, variable pressure or hybrid pressure mode of operation. Unit design was based on normal turbine throttle pressure and variable turbine throttle pressure from 25% to 100% load.

The Major Scope of Supply for Each Unit Includes :

- One (1) RBC unit pressure parts including drum, furnace, primary and secondary superheater, economizer and reheater.
- Forty-eight dual-register burners (high input) each with one CFA oil lighter (see Burner and Pulverizer section).